ENGINES AND BOILERS

AUSTEN BROS.,

Hailfax, N. S., - Canada.

Manufacturers of

STATIONARY AND
PORTABLE

STEAM ENGINES AND BOILERS.

Service, Economy in Fuel Consumption and Prompt Shipments are the Inducements we Offer.

OUR GOODS ARE IN USE THROUGHOUT THE COUNTRY. RESULTS FIRST CLASS.

15th ANNUAL CATALOGUE.

WITH pleasure we present herewith our new catalogue, descriptive of Engines and Boilers, to take the place of all former ones, which are hereby annulled.

We manufacture ONE CLASS ONLY engines and boilers, strictly high-grade in every particular, the best that can be produced by skilled labor, standard material and machinery of the latest type.

With a view to maintain the confidence of our many patrons, we need only mention The "Jewel" Automatic Engine, with Rites Governor.

We shall make every effort to merit our past reputation as builders of the best boiler, price and material being duly considered.

MATERIAL.— We use flange steel only in the construction of our standard steel Boilers, and they are fitted with full weight, lap-welded tubes of the best American manufacture. The rivets, braces, etc., are also of a strictly high-grade product.

In considering the lives of the large number of men at risk, the manufacturer assumes a grave responsibility, and great care should be exercised in building Boilers to make them safe.

To buy anything but a first-class Boiler is *criminal negligence.*

FREIGHTS.— We deliver all goods F. O. B. cars at our factory, unless otherwise specified, and there our responsibility ceases.

The lowest freight rates will be secured and shipments traced through to destination.

N. B.— Any delivery promised is contingent upon strikes, accidents, delay by carrier or other causes beyond our control.

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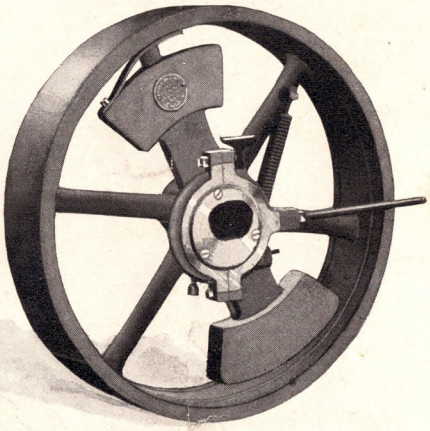
OUR "JEWEL."

A HIGH-CLASS, PERFECTLY GOVERNED, AUTOMATIC ENGINE AT MODERATE COST.



Governor in Fly-Wheel.

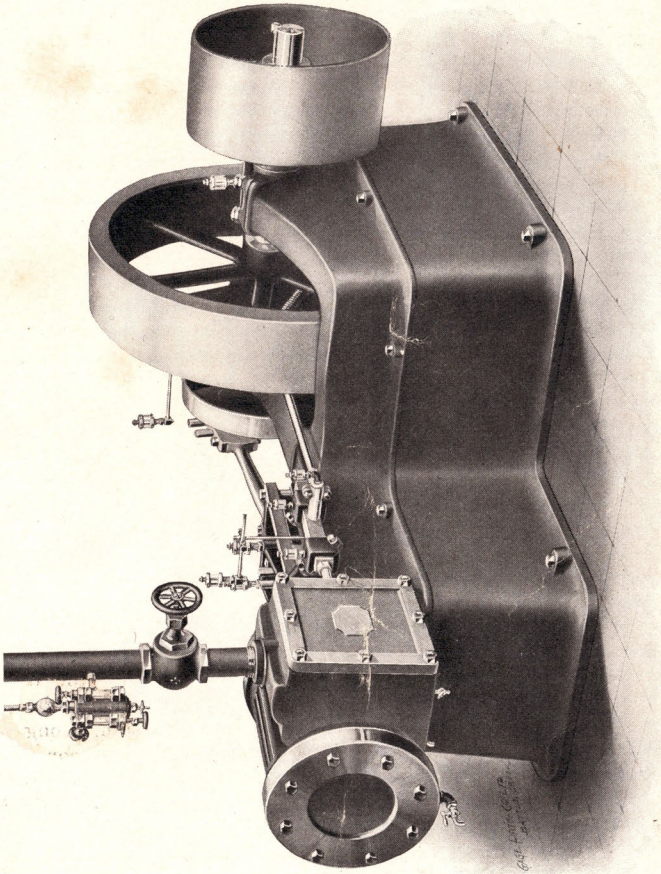
THIS engine has been in use for a number of years with the BEST POSSIBLE RESULTS, and has gained a wide reputation in the way of economy and service. Handsome and attractive in design, strong and well built, equipped with every modern improvement, a great economizer in use of steam, with perfect regulation, it is a successful, durable engine.

The Jewel is now equipped with the Rites governing system, and with a new balanced valve.

The Governor consists of but a single piece, swinging upon a common supporting pin, and marks the climax of simplicity, and insures the least possible chance for derangement.

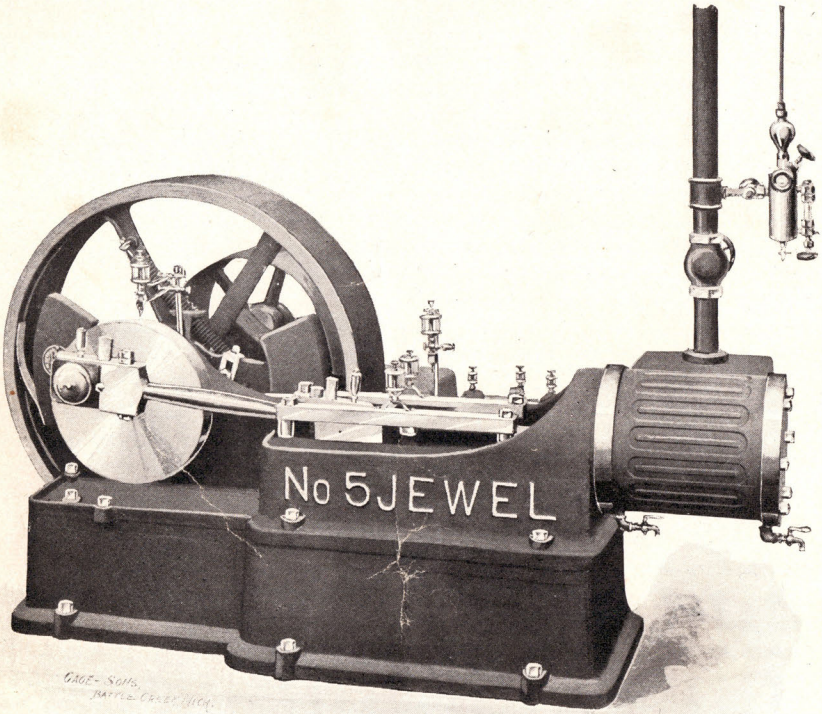
With the balanced valve used, this governor produces a regulation that is practically perfect, speed being constant with and without a load.

The fact that this type of governor has been adopted by almost the entire engine trade of the better class, is convincing evidence of its perfection.



JEWEL NO. 7.

Jewel No. 7, with special and modern machinery, standard material, and years of experience, is presented to the public as the best automatic engine that mechanical skill can produce for the price. We specially recommend this engine for electrical plants and all power requiring close regulation.



The IMPROVED JEWEL

AUTOMATIC ENGINE,
With RITES GOVERNOR.

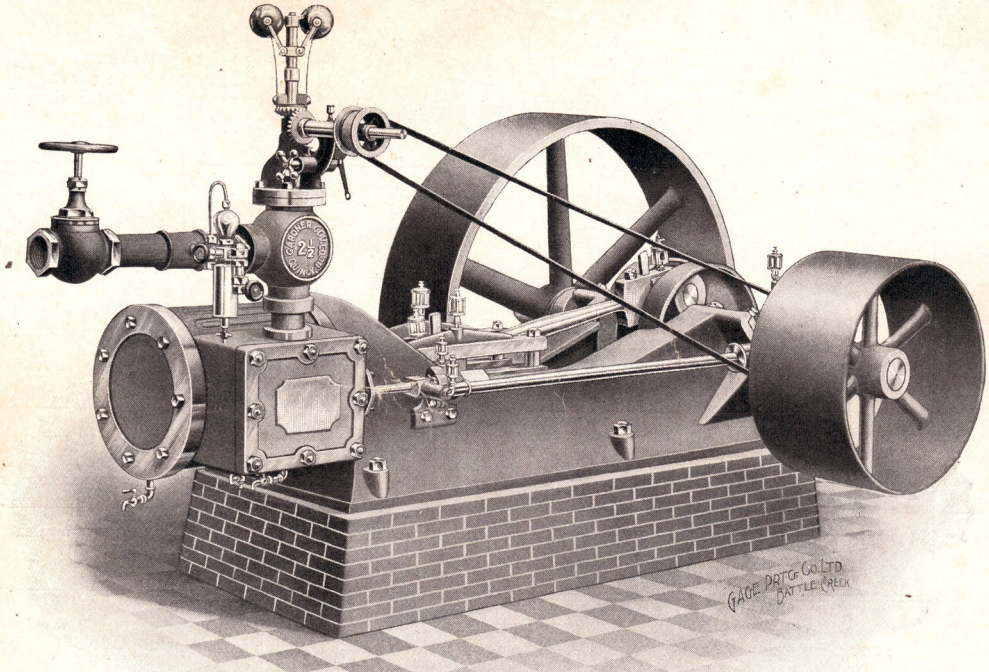
DIMENSIONS AND POWERS OF THE JEWEL AUTOMATIC CUT-OFF ENGINES.

Based on 80 lbs. Initial Pressure, Cut-Off at ¼ Stroke.

TRIMMINGS.—We ship with each Engine a complete set of glass oilers, sight-feed lubricator, one throttle valve and two cylinder cocks.

Engine Number....	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**
Telegraphic Cipher.....	Diamond	Ruby	Emerald	Pearl	Opal	Garnet	Turquois	Amethyst	Sapphire	Topaz
Horse Power Rating	6 to 8	8 to 10	10 to 12	15 to 18	20 to 25	30 to 35	40 to 45	50 to 55	60 to 65	70 to 75
Revolutions per Minute.	AT 260 | AT 380	AT 230 | AT 320	AT 230 | AT 300	AT 220 | AT 280	AT 220 | AT 260	AT 220 | AT 260	AT 200 | AT 230	AT 200 | AT 225	AT 200 | AT 225	AT 200 | AT 225
Cylinder.... Bore.....	4½ in.	5 in.	6 in.	7½ in.	8 in.	9¼ in.	10 in.	10 in.	11 in.	12 in.
Cylinder.... Stroke....	6 in.	7½ in.	7½ in.	8 in.	10 in.	10 in.	12 in.	15 in.	15 in.	15 in.
Steam Pipe.....	1¼ in.	1¼ in.	1½ in.	2 in.	2 in.	2 in.	2½ in.	3 in.	3½ in.	4 in.
Exhaust Pipe.....	1½ in.	1½ in.	2 in.	2½ in.	2½ in.	2½ in.	3 in.	4 in.	4½ in.	5 in.
Fly-Wheel.. Diameter.	20 in.	30 in.	30 in.	35 in.	42 in.	42 in.	48 in.	60 in.	60 in.	60 in.
Fly-Wheel.. Face.....	5½ in.	6¾ in.	6¾ in.	7½ in.	9¾ in.	9¾ in.	9¼ in.	12 in.	12 in.	12 in.
Fly-Wheel.. Weight..	135 lbs.	200 lbs.	340 lbs.	435 lbs.	660 lbs.	660 lbs.	750 lbs.	1000 lbs.	1000 lbs.	1300 lbs.
Belt Pulley. Diameter.	14 in.	16 in.	18 in.	20 in.	20 in.	24 in.	24 in.	30 in.	30 in.	36 in.
Belt Pulley. Face.....	6½ in.	7½ in.	8½ in.	10½ in.	12 in.	12 in.	12 in.	12 in.	12½ in.	14 in.
Diameter of Shaft.....	1 1⅝ in.	2¼ in.	2¼ in.	2⅜ in.	3½ in.	3½ in.	3¾ in.	3⅞ in.	4⅜ in.	4⅞ in.
Floor Space	52 x 36	64 x 38	64 x 38	69½x46½	73 x 54	73 x 54	112 x 60	120 x 78	120 x 78	120 x 78
Weight, (Complete.....	700 lbs.	1050 lbs.	1275 lbs.	1850 lbs.	3150 lbs.	3300 lbs.	4500 lbs.	7200 lbs.	7700 lbs.	8200 lbs.
Cubic ft. boxed for export	28	59½	59½	92	148	148	234	401	401	401

Every engine thoroughly tested under actual service conditions before shipment.
In our No. 1 Jewel the sub-base and frame is one solid casting.
On crank pin we use center oilers on Nos. 1, 2 and 3. On other sizes we use wipe oilers.
Engines are set to run at the highest speed, when leaving our factory, unless otherwise ordered.
All engines are right-hand and run over (top of fly-wheel running away from cylinder).
Extra charge made for foundation bolts.



HORIZONTAL CENTER-CRANK ENGINE.

HORIZONTAL CENTER-CRANK ENGINE.

Our horizontal center-crank is a strong, simple, plain engine.

The lower slides, the journal boxes, the center of the Cylinder, the cross-head and the crank shaft bearings are in a direct line, thus relieving the studs which hold the upper slides from all strain, and bring the thrust of the crank bearings directly on the engine bed and not on the studs. The cylinder, ways and cross-head are of the modern locomotive pattern. The piston has self-adjusting packing rings. The cylinder heads are overhanging and polished, and in connection with the iron jacket, present a surface always bright, and one that can be easily kept clean. The connecting rods and eccentric rod have adjusting brass boxes.

We justly claim for this Engine large wearing surfaces, durability, great rigidity and strength, extreme simplicity and few parts.

All our engines are run and tested under actual working pressure before shipping, and are known to be in perfect working order.

Rated Horse Power	**4**	**6**	**8**	**10**	**12**	**15**	**20**	**25**	**35**	**40**	**50**
Telegraphic Cipher.....	Ape	Cow	Cat	Dog	Elk	Fox	Pig	Rat	Deer	Bear	Coon
Cylinder { Bore, inches	4	5	6	7½	7½	8	9¼	10	10	11	12
Cylinder { Stroke, inches	5	7½	7½	8	9	10	10	12	15	15	15
Steam Pipe, inches.....	¾	1	1¼	1½	1½	1½	2	2½	2½	3	3½
Exhaust Pipe, inches ...	1	1¼	1½	2	2	2	2½	3	3½	4	4½
Revolutions per Minute.	300	250	200	200	180	180	150	150	150	150	150
Governor Pulley { Diam	4⅝	5⅝	6⅛	9	9	9	9	9	8¼	8¼	8¼
Governor Pulley { Face .	1½	1¾	1¾	2	2	2	2	2	2¾	2¾	2¾
Fly Wheel { Diam., ins..	17	24	24	30	30	35	40	48	60	60	60
Fly Wheel { Face, inches	4½	6	6	6¾	6¾	7¼	9¾	12	12	12	12
Fly Wheel { Weight.	65	170	170	180	180	350	420	500	1000	1000	1250
Belt Pulley { Diam., ins.	12	14	14	16	18	18	20	24	30	30	36
Belt Pulley { Face, ins...	5	6½	6½	7½	8½	8½	12	12	12½	12½	12½
Weight complete, lbs...	350	650	700	1200	1250	1600	2350	3160	4500	4800	5200
Diameter of Shaft, inches	1½	1 5/16	1 5/16	2⅜	2⅜	2⅜	3	3⅜	3⅞	4⅜	4⅞
From foundation top to center of shaft, inches.	6½	7¼	7¼	7¼	7¼	7¼	10	11½	13	13	13
Floor Space, inches... {	44	62	62	78	79	80	84	96	127	127	127
Floor Space, inches... {	x	x	x	x	x	x	x	x	x	x	x
Floor Space, inches... {	30	36	36	42	42	42	55	54	74	74	74
Cu. ft. crated for export.	13½	26	26	37	37	50	74	118	188	188	197

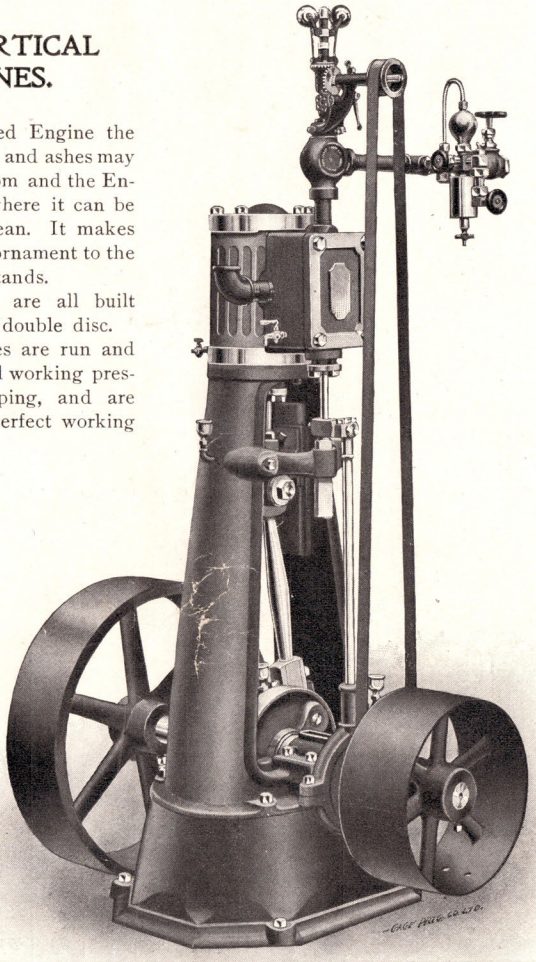
TRIMMINGS.—The above engines include governor, governor pulley and belt, glass oilers, cylinder lubricator, throttle valve and cylinder cocks.

OUR VERTICAL ENGINES.

With a detached Engine the Boiler with its dirt and ashes may be kept in one room and the Engine in another, where it can be kept cool and clean. It makes no dirt, and is an ornament to the room in which it stands.

These engines are all built center-crank with double disc.

All our Engines are run and tested under actual working pressure before shipping, and are known to be in perfect working order.



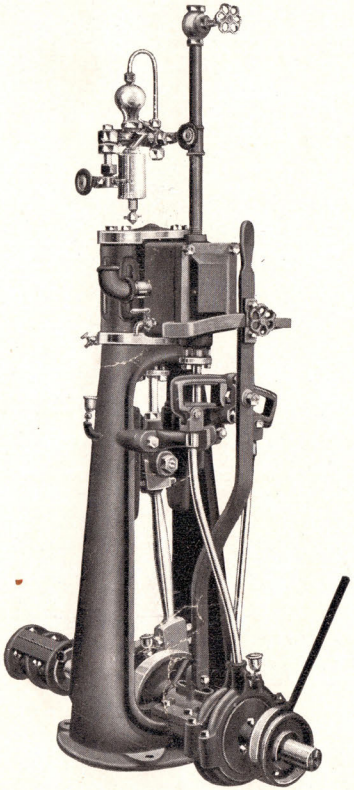
VERTICAL ENGINES.

Neat and simple in design, strong and durable in construction. Discs are heavy cast iron. Shaft and wrist-pin best grade of machinery steel, pressed together with hydraulic pressure and keyed. Steel connecting rods. Brasses of best box metal, and all parts of the engine adjustable. High grade standard trimmings furnished. All engines run and tested under actual working pressure.

DIMENSIONS OF VERTICAL ENGINES.

Rated Horse Power	**2**	**3**	**4**	**5**	**6**	**8**	**10**	**12**	**15**
Telegraphic Cipher	Carrot	Turnip	Parsnip	Radish	Cabbage	Squash	Lettuce	Beans	Peas
Cylinder { Bore	3 in.	3½ in.	4 in.	4½ in.	5 in.	6 in.	7½ in.	7½ in.	7½ in.
Cylinder { Stroke	5 in.	5 in.	5 in.	5 in.	7½ in.	7½ in.	8 in.	9 in.	10 in.
Steam Pipe	½ in.	½ in.	¾ in.	¾ in.	1 in.	1¼ in.	1½ in.	1½ in.	1½ in.
Exhaust Pipe	¾ in.	¾ in.	1 in.	1 in.	1¼ in.	1½ in.	2 in.	2 in.	2 in.
Revolutions per minute	350	350	300	300	250	200	200	180	180
Belt Pulley { Diameter	10 in.	10 in.	12 in.	12 in.	14 in.	14 in.	16 in.	18 in.	18 in.
Belt Pulley { Face	4½ in.	4½ in.	5 in.	5 in.	6½ in.	6½ in.	7½ in.	8½ in.	8½ in.
Governor Pulley { Diameter	4 in.	4 in.	4⅝ in.	4⅝ in.	5⅝ in.	6⅛ in.	9 in.	9 in.	9 in.
Governor Pulley { Face	1½ in.	1½ in.	1½ in.	1½ in.	1¾ in.	1¾ in.	2 in.	2 in.	2 in.
Floor Space, inches	18 x 20	18 x 20	18 x 20	18 x 20	20 x 22	20 x 22	22 x 24	22 x 24	22 x 24
Height to top of Cylinder	3 ft. 6 in.	3 ft. 6 in.	3 ft. 8 in.	3 ft. 8 in.	4 ft. 5 in.	4 ft. 5 in.	5 ft. 6 in.	5 ft. 7 in.	5 ft. 8 in.
Weight complete	275 lbs.	300 lbs.	425 lbs.	500 lbs.	700 lbs.	850 lbs.	1250 lbs.	1400 lbs.	1500 lbs.
Balance Wheel. { Diameter	15 in.	15 in.	17 in.	17 in.	24 in.	24 in.	30 in.	30 in.	35 in.
Balance Wheel. { Face	4 in.	4 in.	4½ in.	4½ in.	6 in.	6 in.	6¾ in.	6¾ in.	7¼ in.
Balance Wheel. { Weight	45 lbs.	45 lbs.	65 lbs.	100 lbs.	170 lbs.	170 lbs.	180 lbs.	180 lbs.	350 lbs.
Diameter of Shaft	1½ in.	1½ in.	1½ in.	1½ in.	1⅝ in.	1⅝ in.	2⅜ in.	2⅜ in.	2⅜ in.
Cubic feet when crated for export	16	18½	18½	18½	32	32	54	54	59

TRIMMINGS.—The above include governor, governor pulley and belt, throttle valve, oil cups, cylinder lubricator, belt wheel, balance wheel and air cock.



OUR VERTICAL MARINE ENGINE

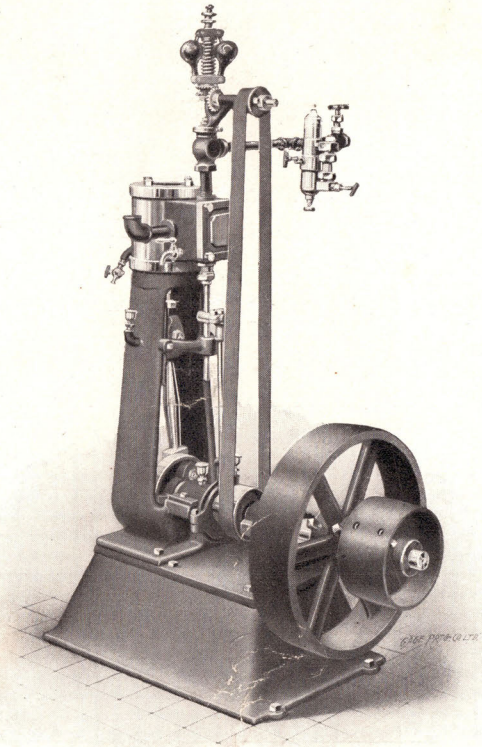
Is constructed with double eccentrics and reversible link attachment, and fitted with compression coupling, starting wheel and bar (no governor, governor pulley, belt wheel, balance wheel, or sub-base furnished). It is thoroughly made, and for service it is equal to any in the market. The material used in its construction is of the best; nothing is accepted until it is rigidly inspected. It is also placed under high steam pressure and run for several hours, and must necessarily stand the test.

We are building them in sizes from one to fifteen (1 to 15) horse power, inclusive.

DIMENSIONS OF VERTICAL MARINE ENGINES.

RATED HORSE POWER.....	1	2	3	4	5	6	8	10	12	15
Telegraphic Cipher.....	Marine Celery	Marine Carrot	Marine Turnip	Marine Parsnip	Marine Radish	Marine Cabbage	Marine Squash	Marine Lettuce	Marine Beans	Marine Peas
Cylinder—										
Bore.....inches	2½	3	3½	4	4½	5	6	7½	7½	7½
Stroke.....inches	3	5	5	5	5	7½	7½	8	9	10
Steam pipe..... inches	⅜	½	½	¾	¾	1	1¼	1½	1½	1½
Exhaust pipe.....inches	½	¾	¾	1	1	1¼	1½	2	2	2
From center of shaft to bottom of marine base, inches	4	3	3	2¼	2¼	2¾	2¾	4¼	4¼	4¼
Floor space.....inches	14 x 26	18 x 20	18 x 20	18 x 20	18 x 20	20 x 22	20 x 22	22 x 24	22 x 24	22 x 24
Height to top of cylinder.....	24 in.	2 ft. 10 in.	2 ft. 10 in.	3 ft. 1 in.	3 ft. 1 in.	3 ft. 9 in.	3 ft. 9 in.	4 ft. 11 in.	5 ft.	5 ft. 1 in.
Shipping weight.....lbs.	110	200	250	330	380	600	630	1100	1250	1350
Cubic feet crated for export.....	6	9	9	10	10	21	21	38	38	38
Diameter of shaft.inches	1⅛	1½	1½	1½	1½	$1\frac{15}{16}$	$1\frac{15}{16}$	2⅜	2⅜	2⅜

TRIMMINGS include throttle valve, oil cups, cylinder lubricator and air cock and fitted with compression coupling, starting wheel and bar. No pulleys, fly wheel or sub-base furnished.



Telegraphic Cipher—CELERY.

"LITTLE GIANT" ENGINE.

1 HORSE POWER.

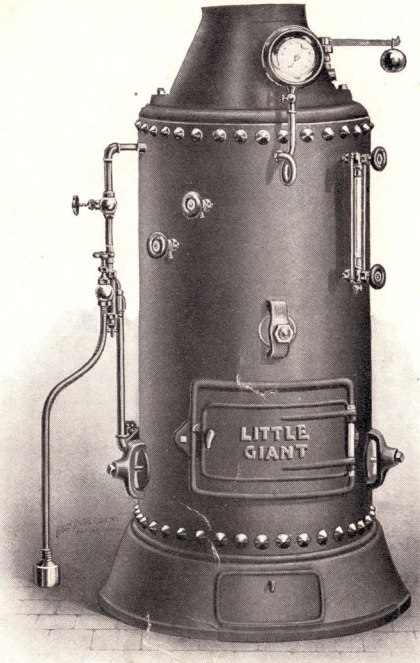
It is unique in design throughout, compact, and a model of simplicity, and is especially adapted for use in running creamery separators, ice cream machinery and light printing presses.

When run at 400 revolutions per minute, will develop its full rated horse power. With each engine we furnish governor, governor pulley and belt, oil cups, throttle valve, cylinder lubricator, belt and balance wheel, complete.

SPECIFICATIONS OF LITTLE GIANT ENGINES.

Cylinder	Bore, in inches	2½
	Stroke, in inches	3
Revolutions per minute		400
Belt Pulley	Diameter, in inches	6
	Face, in inches	3¼
Fly Wheel	Diameter, in inches	13
	Face, in inches	3½
	Weight, in lbs	35

Governor, inch	⅜
Exhaust, inch	½
Floor space, in inches	14 x 26
Height to top of cylinder, in inches	30
Weight, complete, in lbs	170
Cubic feet when crated for export	6



Telegraphic Cipher—RED.

"LITTLE GIANT" BOILER.

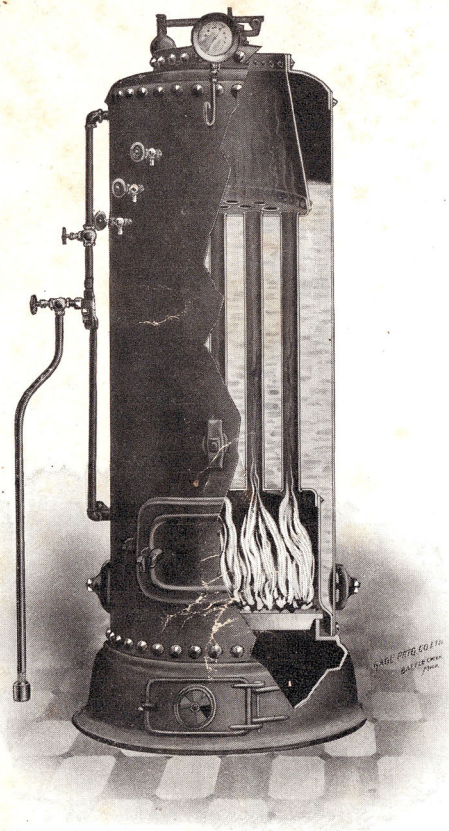
1½ HORSE POWER.

This Boiler is complete in every detail, and is extensively used where light power is needed. It is made of the best quality of steel and tested at 150 pounds pressure before leaving the works.

SPECIFICATIONS OF LITTLE GIANT BOILERS.

Horse Power	1½
Telegraphic Cipher	RED
Diameter of boiler, in inches	20
Height above base, in inches	36
Diameter of furnace, in inches	16
Height of furnace, in inches	18
Thickness of steel in shell	3-16
Thickness of steel in heads	¼
Thickness of steel in fire box	¼
Length of tubes, in inches	18
Number of 2-inch tubes	16
Weight of boiler without trimmings or fixtures	325
Floor space, diameter, in inches	30
Weight of boiler, complete	475
Outside diameter of stack opening, in inches	8⅛
Height from floor to top of hood	4 ft. 2 in.
Cubic feet crated for export	13½ cu. ft.

Castings and Trimmings — Hood, door and frame, grates base, injector or feed pump (description and cut on page 30), steam gauge, water gauge, two gauge cocks, safety and blow-off valves.



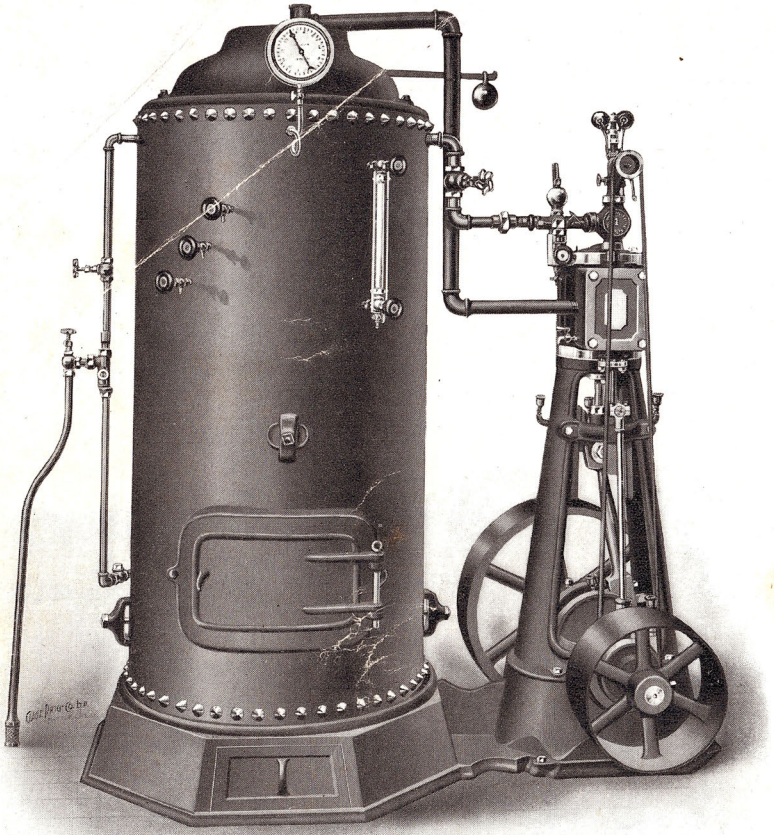
SECTIONAL VIEW SUBMERGED FLUE TUBULAR BOILER.

This type of Boiler made throughout of 60,000 lbs. tensile strength homogeneous steel, and is so constructed that the water line is above the tubes, the tops of the tubes instead of being above the water are submerged, thus removing any tendency to burn them by over heating.

SPECIFICATIONS OF SUBMERGED TUBULAR BOILERS.

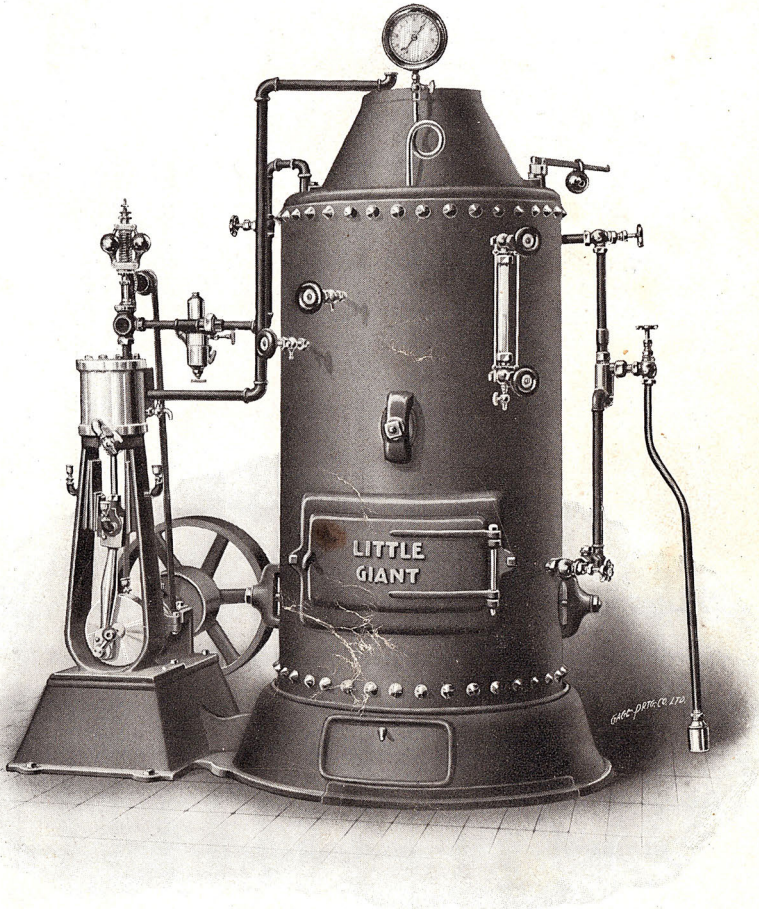
Horse Power	**5**	**8**	**10**	**12**	**15**
Telegraphic Cipher	Chestnut	Oak	Walnut	Beech	Hickory
Diameter in inches	24	30	30	30	36
Height in inches	60	60	72	84	84
Height of fire box	24	27	28	28	30
Number of tubes	31	54	54	54	70
Diameter of tubes in inches	2	2	2	2	2
Length of tubes in inches	18	19	27	38	38
Thickness of shell	¼	¼	¼	¼	¼
Thickness of fire box	9/32	9/32	9/32	9/32	5/16
Thickness of heads	⅜	⅜	⅜	⅜	⅜
Thickness of cone	9/32	9/32	9/32	9/32	5/16
Size of safety valve, in inches	1	1¼	1¼	1½	1½
Size of blow-off in inches	1	1	1	1	1
Diameter of stack opening in inches	11½	11½	15½	15½	18
Weight of boiler without fixtures	700	1075	1250	1450	1930
Weight of boiler complete	1200	1500	1700	1900	2700
Cubic feet when crated for export	30	42	48½	55	78

FIXTURES for the above include grates and doors, fitted with steam gauge, water gauge, gauge cocks, safety valve and blow-off valve and injector.



OUR COMBINED VERTICAL ENGINE AND BOILER.

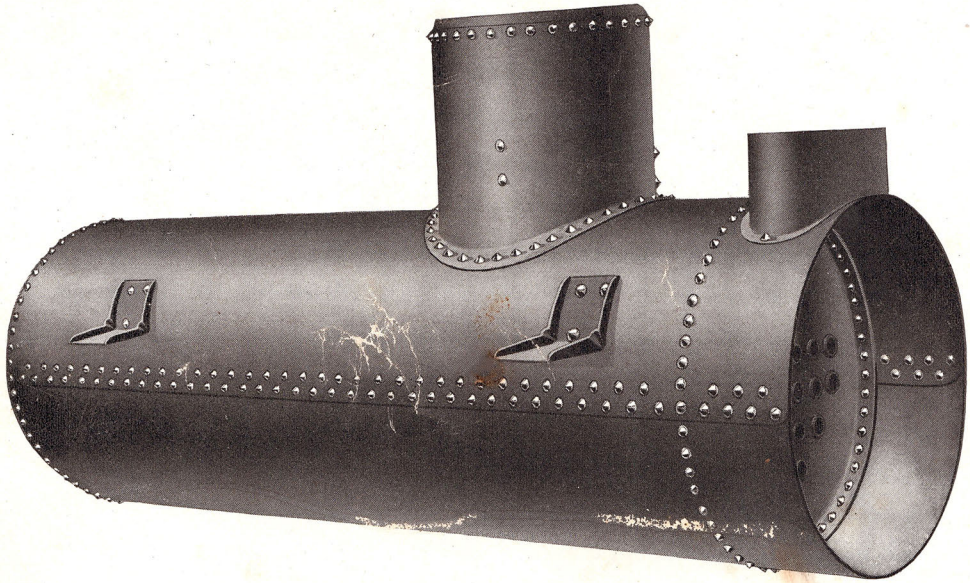
The above illustrates our Combined Vertical Engine and Boiler, trimmed and piped complete, built in any size boiler from 1½ H. P. to 16 H. P. and engine 2 H. P. to 15 H. P. See specifications pages 11 and 17. We always furnish on independent bases unless otherwise ordered, but we make no extra charge for combining on one base when desired.



COMBINED "LITTLE GIANT" ENGINE AND BOILER.

This outfit is complete in every detail, and can be furnished on combined or independent bases, as desired. For specifications and description see pages 14 and 15.

In this outfit the engine stands on the left hand side of the boiler as you face the fire door.



HORIZONTAL STATIONARY TUBULAR BOILER.

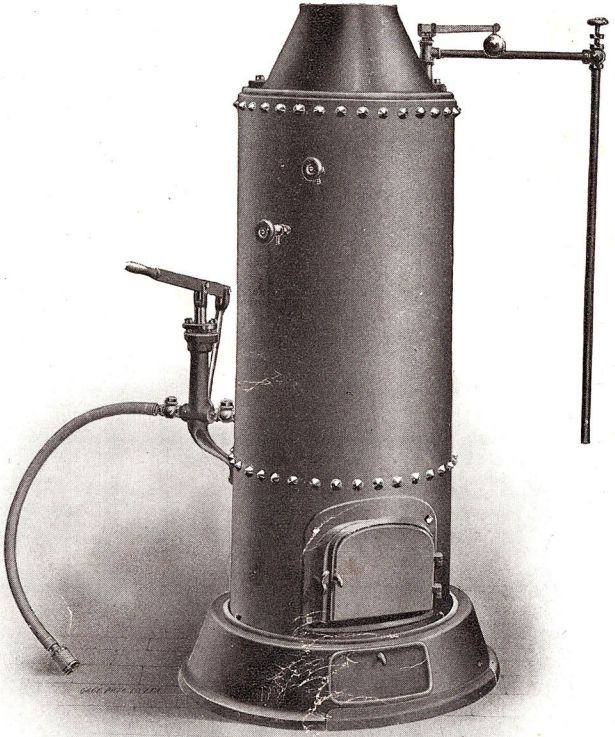
These boilers are made of flange steel, 60,000 lbs. tensile strength, and the tubes are full weight, lap-welded, of the best American manufacture. High grade standard fittings and trimmings.

SPECIFICATIONS OF IDEAL ECONOMIST BOILER.

Horse Power Rating	**4**	**5**	**6**	**7**	**8**	**10**	**12**	**15**
Telegraphic Cipher	Cloth	Woolen	Linen	Cambric	Gingham	Calico	Cotton	Muslin
Diameter of shell, inches	26	26	26	30	30	30	30	30
Length of tubes, feet	3	4	5	5	6	7	8	10
No. of 3-inch tubes	15	15	15	22	22	22	22	22
Thickness of shell, inches	¼	¼	¼	¼	¼	¼	¼	¼
Thickness of heads	5-16	5-16	5-16	5-16	5-16	5-16	5-16	5-16
Length grates, inches	24	24	24	24	30	30	30	36
Width grates, inches	20	20	20	24	24	24	24	24
Size pop safety valve, inches	¾	¾	1	1	1¼	1½	1½	1½
Size blow-off valve, inches	¾	¾	1	1	1	1	1	1
No. of fire brick or tile lining	10	12	14	14	16	18	20	24
Size of fire brick or tile lining	12 x 22	12 x 22	12 x 22	12 x 24	12 x 24	12 x 24	12 x 24	12 x 24
Weight of fire brick or tile lining	500	600	700	800	900	1025	1150	1350
Length of stack, feet	20	20	20	24	24	24	24	24
Diameter of stack, inches	12	12	12	14	14	14	14	14
Approximate weight, complete	2200	2550	2875	3200	3700	4250	4800	5600

WITH THESE BOILERS THE FOLLOWING FIXTURES AND FITTINGS ARE FURNISHED:

Smoke box extension, door and stack saddle, grate bars, bearing bars, bridge wall, fire brick lining, pop safety valve, steam gauge and siphon, water column with glass water gauge, two gauge cocks; feed, check and blow-off valves; injector fitted to boiler, smoke stack and guys four times length of stack. Detachable domes enable convenient loading in box cars, as well as economy in freight charges.



THE EUREKA BOILER OR STEAM FEED COOKER.

SIZE. NO.	TELEGRAPHIC CIPHER.	Diameter of Shell.	Height of Shell.	No. of 2-in. Flues.	Length of Boiler over all.	Shipping Weight.	Cubic Feet Crated for Export.	Capacity.
1	Short	19 in.	40 in.	9	54 in.	375 lbs.	13½ c. ft.	21 gals.
2	Long	19 in.	44 in.	13	58 in.	400 lbs.	14 c. ft.	25 gals.

The trimmings include two gauge cocks, blow-off valve, pump for supplying the boiler with water, safety valve, 2 feet 6 inches suction hose, three feet steam pipe with valve to convey steam to barrel or vat for cooking feed or boiling water.

INSTRUCTIONS FOR PUTTING ON TRIMMINGS.—When you are facing the Boiler in front you will find in the top head a hole for the safety valve. A few inches lower in the shell and a little to the left of the door are two holes near together, one above the other, for two gauge cocks. On back side of boiler near the base is a hole in the shell for blow-off valve. Near the top of the boiler on right side in the shell is a hole for *the steam pipe.*

We wish to call your attention to the fact that one of the strongest points of the Eureka Boiler is that it is furnished with a force pump, so the operator may put water in at any time without letting down steam and stopping the progress of the cooking.

THE EUREKA BOILER OR STEAM FEED COOKER.

Having long seen the need of a good, reliable farm boiler for cooking feed, heating water, etc., we have put upon the market our Eureka Boiler or Steam Feed Cooker, made from boiler steel with regular boiler tubes, making it durable, rigid and strong in all its parts; and being well riveted and calked, will last, with ordinary care, a lifetime. While we test these boilers at 100 lbs. hydraulic pressure, they are only intended for use where low pressure is required.

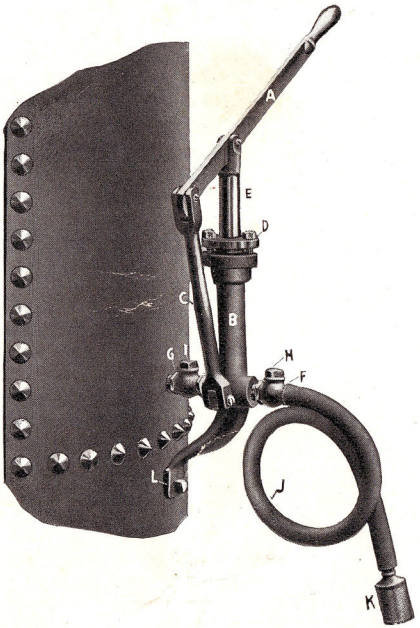
These boilers are provided with grates, which adapts them to the burning of all kinds of fuel, such as coal, wood, corn cobs, etc.

The Eureka Steam Boiler will cook or steam any kind of feed placed in a barrel or vat, with but little care and without danger of burning, thus overcoming the objections to a kettle or caldron. It will steam *moldy hay and corn* perfectly sweet: steam *dry cornstalks and straw* so they will become soft and palatable, and *cook potatoes* so as to render them digestible and valuable for feed. It will also enable a farmer to *save one-third to one-half of his corn* and other feed and at the same time make his *stock thrive better.* It will *save labor in feeding* rather than increase it, as stock fatten much faster when their food is cooked.

In addition to the above, the Eureka Boiler can be used for heating water for a variety of purposes, for steaming casks and milk cans, steaming wood for bending, heating cheese vats, steaming wheat, and ordering tobacco, etc.

DIRECTIONS FOR USING EUREKA BOILERS.—Pump enough water into your boiler so the top gauge cock will, by trying, show water, but no more. *In firing up your boiler never build a quick, hot fire, as by so doing you are liable to heat the top end of the flues before the steam rises, causing them to leak; but build a slow fire which will prevent this trouble. This is important, as the best boilers can be ruined very soon in this way.* Grates are liable to be burned out very quickly by allowing the ashes to accumulate underneath. Keep your ash pit clean. Run the steam pipe down to the bottom of the vessel that the contents may receive full benefit.

CAUTION.—Do not unscrew nut "I" on check valve "G" (see cut, page 30) when there is steam pressure on the boiler. The Eureka Boiler is tested at 100 lbs. hydrostatic pressure, but should not be used at as high a pressure as that, as it is only intended for a low-pressure boiler. The safety valve should blow off at about 40 lbs.



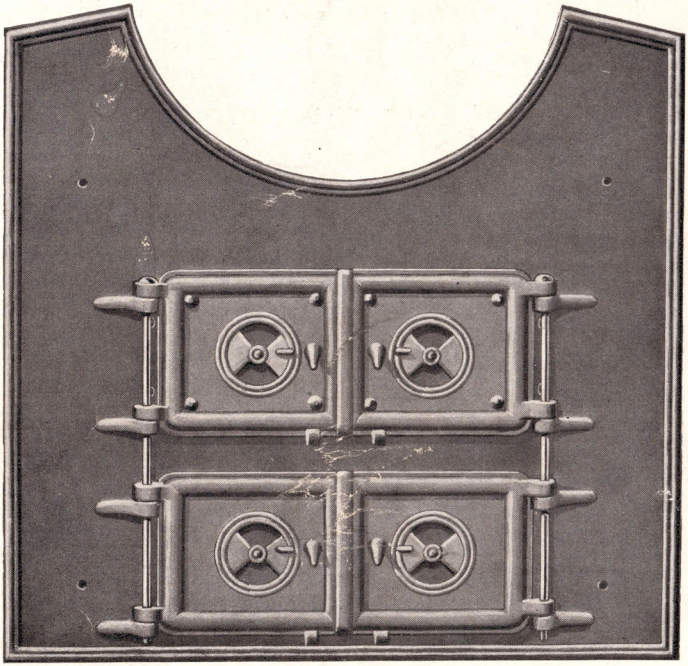
BOILER FEED PUMP.

DIRECTIONS FOR ATTACHING THE PUMP.— Start the thread of the check valve "G" in the boiler and screw in by turning pump carefully so as not to strip the thread on the check valve. Screw it down tight enough so that there will be no leak, taking care not to twist off the valve thread. Screw in cap screw "L," drawing brace against boiler tightly, but not tight enough to break it.

DIRECTIONS FOR CLEANING PUMP.— A very small particle of dirt in the check valves "F" or "G" will stop the pump from working. To remove the dirt unscrew the nuts "H" and "I" and wipe out the seat. A screen is fitted to the end of the hose to keep dirt out, as dirty water will stop the valves very quickly. Keep the screen clean. Stuffing-box "D" can be tightened if pump leaks at top, and when packing is worn out can be repacked with candle wicking or hemp.

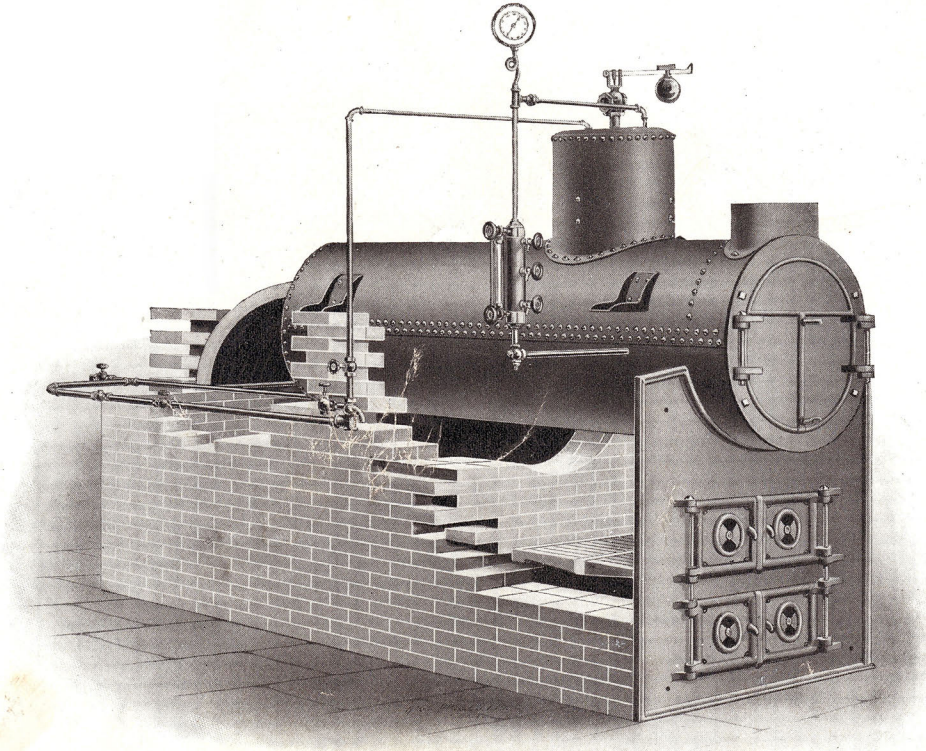
Diameter of Stack.	SMOKE STACKS.												EXTRAS.		
	MADE OF NO. 16 IRON.		MADE OF NO. 14 IRON.		MADE OF NO. 12 IRON.		MADE OF NO. 10 IRON.		MADE OF NO. 8 IRON.		MADE OF $\frac{3}{16}$ THICK IRON.				
	Price, per Foot.	Weight per Ft. lbs. ab't	Price, per Foot.	Weight per Ft. lbs. ab't	Price, per Foot.	Weight per Ft. lbs. about.	Price, per Foot.	Weight per Ft. lbs. about.	Price, per Foot.	Weight per Ft. lbs. about.	Price, per Foot.	Weight per Ft. lbs. about.	Stack Plate.	Damper in Stack.	Galvanized Iron Guy Rope, per Ft.
10	$0.55	7½	$0.60	9½	$0.80	14	$0.95	15½	.....	.....	.....	.....	$4.00	$2.00	
12	60	9	.70	11½	.90	16	1.05	18½	.....	.....	.....	.....	4.00	2.00	
14	65	10½	.75	13¼	.95	18	1.15	21½	.....	.....	.....	.....	4.00	2.00	
16	70	12	.80	15¼	1.05	20	1.25	24½	.....	.....	.....	.....	5 00	2.00	
18	75	13½	.90	17¼	1.15	22½	1.40	28	.....	.....	.....	.....	5.00	3.00	2 cts.
20	80	15	.95	19	1.25	25	1.50	31	.....	.....	.....	.....	5.00	3.00	
22	90	16½	1.05	21	1.40	27½	1.65	34	.....	.....	.....	.....	6.00	3.00	
24	1.00	17½	1.15	22½	1.55	29½	1.75	37	.....	.....	.....	.....	6.00	3.00	
26	1.10	19	1.25	24	1.65	32	1.90	40	.....	.....	.....	.....	6.00	3.00	
28	1.20	20½	1.35	26	1.75	34½	2.00	43	.....	.....	.....	.....	7.00	3.00	
30	1.25	22	1.45	28	1.90	36½	2.15	46	$3.30	56	$4.00	60	8.00	4.00	
32	1.35	23	1.55	29½	2.00	39	2 25	49	3.60	59½	4.30	64	9.00	4.00	3 cts.
34	1.45	24	1.65	31	2.15	41	2.40	52	3 90	63	4.65	68	10.00	4.00	
36	1.55	25	1.75	32½	2.30	43½	2.55	55	4.20	66½	5.00	72	10.00	5.00	
38	....	....	1.90	34	2 45	45	2.70	58	4.50	70	5.25	76	11.00	5.00	
40	.....	....	2.00	35½	2.60	47	2.85	61	4.65	73½	5.55	80	13.00	7.00	
42	.....	....	2.15	37	2.75	49½	3.00	64	4.85	77	5.80	84	14.00	9.00	
44	.....	....	2.30	39	2.90	52	3.20	67	5.15	80½	6.10	88	18.00	10.00	
46	.....	....	2.50	41	3.00	54½	3.40	70	5.40	84	6.40	92	19.00	11.00	5 cts.
48	.....	....	2.70	45	3.15	56¾	3.60	73	5.55	87	6.65	96	21.00	12.00	
50	.....	....	.....	....	3.30	59	3.80	76	5.70	90½	6 80	100	23.00	13.00	
52	.....	....	.....	....	3.45	61½	4.00	79	5.95	94	7.00	104	28.00	14 00	
54	.....	....	.....	....	3.60	64	4.15	82	6.10	97½	7.20	108	29.00	14.00	
56	.....	....	.....	....	3.75	66½	4.35	85	6.30	101	7.50	112	30.00	15.00	
58	.....	....	.....	....	3.90	69	4.55	88	6.55	104	7.80	116	33.00	16.00	
60	.....	....	.....	....	4.00	71½	4.75	91	6.80	107½	8.10	120	38.00	16.00	
62	.....	....	.....	....	.....	.....	.....	.....	7.00	111	8.35	124	.....	.....	
64	.....	....	.....	...	.....	.....	.....	.....	7.25	114½	8.65	128	.....	.....	
66	.....	....	.....	....	.....	.....	.....	.....	7.45	118	8.95	132	.....	.....	6 cts.
72	.....	....	.....	....	.....	.....	.....	.....	8.25	121½	9.75	144	.....	.....	
78		....	.....	....	.....	.....	.....	.....	8.85	125	10.55	156		.....	
84	.....	...	.....	....	.....	.....	.....	.....	9 60	128½	11 25	168	.....	.....	
90	.....	....	.....	....	.....	.....	.....	.....	10.25	132	11.95	180	.....	.....	
96	.....	....	.....	....	.....	.....	.....	.....	11.00	135½	13.05	205	.....	.....	

NOTE.—For Elbow in Stack add cost of 8 FEET OF STACK. Iron Ladder Riveted to Stack, 75 cents per foot.

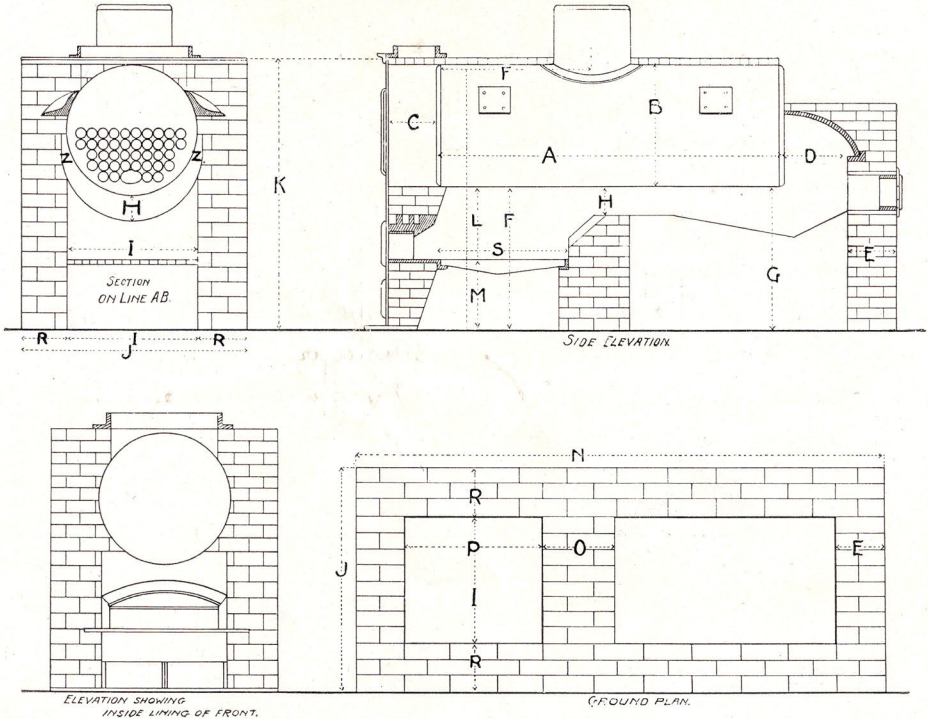


36-INCH HALF FRONT.

All fronts smaller than 36-inch are furnished with single doors.



HORIZONTAL BOILER, HALF FRONT SETTING.

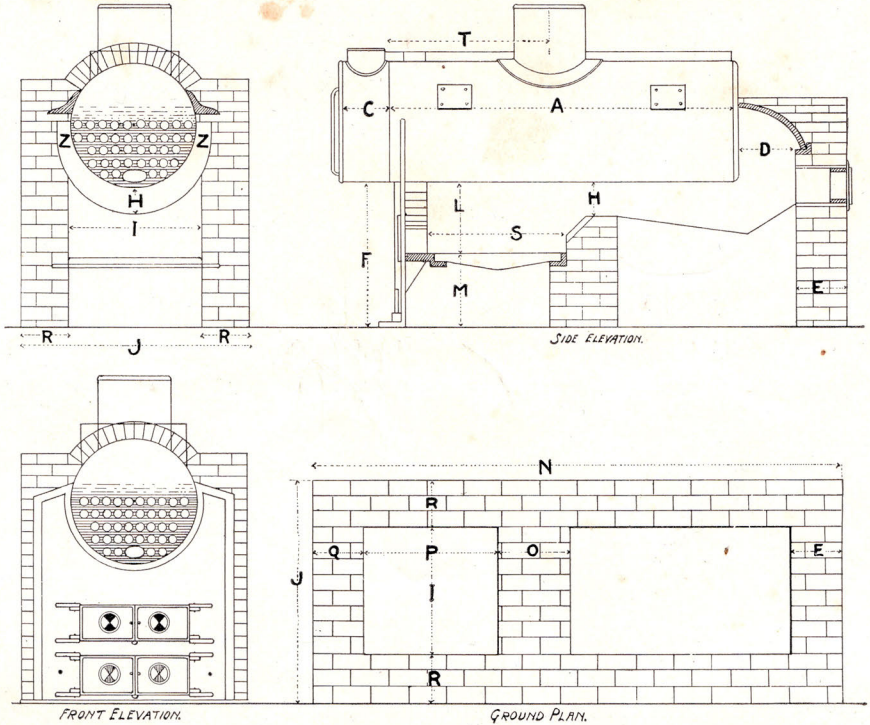


FULL FLUSH FRONT, SETTING, No. 1.

MEASUREMENTS FOR SETTING TUBULAR STATIONARY BOILERS

WITH FULL FLUSH FRONTS.

Horse Power.	SETTING PLAN NO. 1. Reference Letters on Diagram.																				Fire Brick.	Common Brick.	Fire Brick to Bridge Wall.
	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O	P	Q	R	S	T	U			
	Ft.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	Ft. In.	In.	In.	In.	In.	In.	In.	In.			
8....	5	30	12	18	15	39	37	7	30	60	69	17	22	8–9	22	26	14	15	30	30	16	400	3800	275
10....	7	30	12	18	15	39	37	7	30	60	69	17	22	10–9	22	30	14	15	34	36	16	500	4800	275
12...	8	30	12	18	15	39	37	7	30	60	69	17	22	11–9	22	30	14	15	34	36	16	550	5000	315
15....	8	36	12	18	20	39	37	8	36	76	68	20	19	11–9	25	32	14	20	36	36	20	600	5200	350
20....	10	36	12	18	20	39	37	8	36	76	68	20	19	14–2	25	32	14	20	36	36	20	650	5800	360
25....	12	36	12	18	20	39	37	8	36	76	68	20	19	16–2	25	38	14	20	42	42	20	750	6500	360
30....	10	42	12	24	20	43	41	8	42	82	93	23	20	14–8	28	38	14	20	42	36	24	750	7300	375
35....	10	44	12	24	20	43	41	9	44	84	93	23	20	14–8	30	44	14	20	48	36	24	800	8700	400
40....	12	44	12	24	20	43	41	9	44	84	93	23	20	16–8	30	44	14	20	48	42	28	850	9500	425
45....	12	48	14	24	24	45	43	10	48	96	99	24	21	16–10	36	44	16	24	48	42	28	1000	12300	500

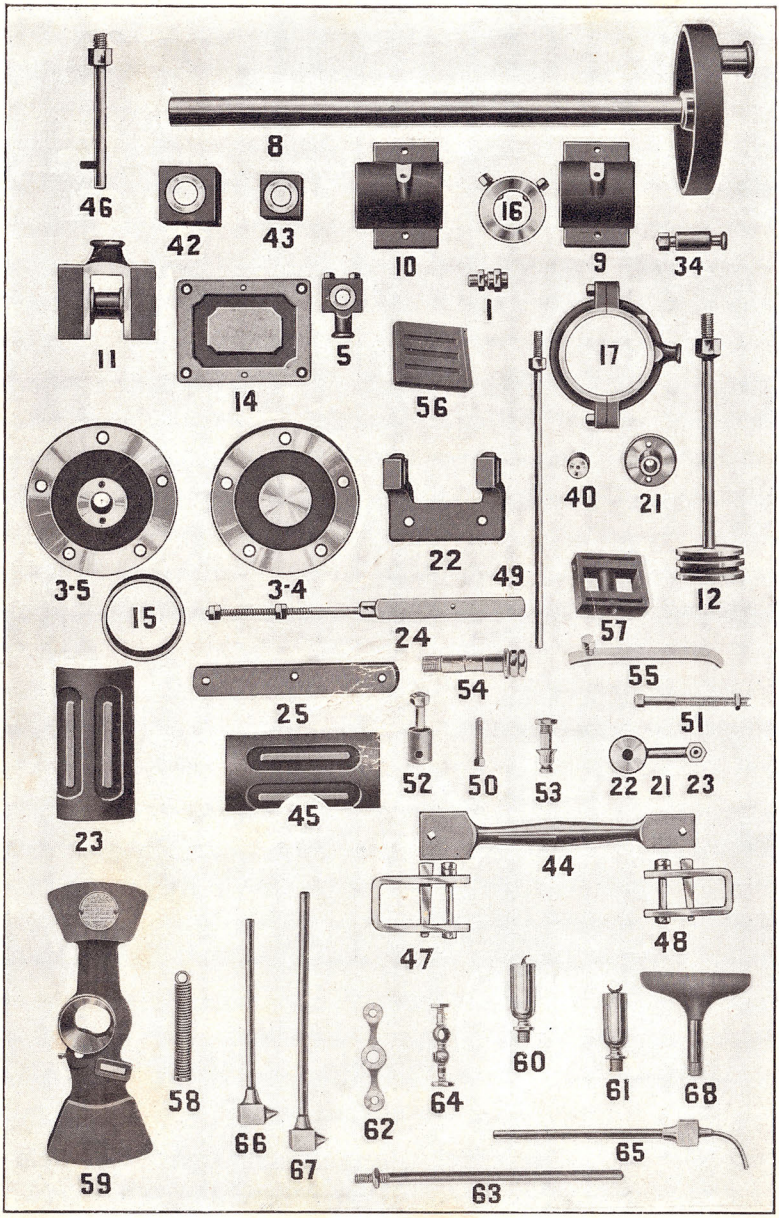


HALF ARCH FRONT, SETTING, No. 2.

MEASUREMENTS FOR SETTING TUBULAR BOILERS

WITH HALF ARCH FRONTS.

Horse Power.	SETTING PLAN NO. 2. Reference Letters on Diagram.																				Fire Brick.	Common Brick.	Fire Brick to Bridge Wall.
	A	B	C	D	E	F	H	I	J	L	M	N	O	P	Q	R	S	T	U	V	z			
	Ft.	In.	In.	In.	In.	In.	In.	In.	In.	In.	In.	Ft. In.	In.	In.	In.	In.	In.	In.	In.	In.	In.			
8....	5	30	12	18	15	39	7	30	60	17	22	8–3	22	27	12	15	30	30	16	14	3	400	3400	275
10....	7	30	12	18	15	39	7	30	60	17	22	10–3	22	31	12	15	34	36	16	14	3	500	4400	275
12....	8	30	12	18	15	39	7	30	60	17	22	11–3	22	31	12	15	34	36	16	14	3	550	4600	315
15....	8	36	12	18	15	39	8	36	76	20	19	11-3	25	33	12	20	36	36	20	16	3	600	4800	350
20....	10	36	12	18	15	39	8	36	76	20	19	13–3	25	33	12	20	36	36	20	16	3	650	5400	360
25....	12	36	12	18	20	39	8	36	76	20	19	15–8	25	39	12	20	42	42	20	16	3	750	6200	360
30....	10	42	12	24	20	43	8	42	82	23	20	14–3	28	38	18	20	42	36	24	16	3	750	7000	375
35....	10	44	12	24	20	43	9	44	84	23	20	14–3	30	44	18	20	48	36	24	16	4	800	8300	400
40....	12	44	12	24	20	43	9	44	84	23	20	16–3	30	44	18	20	48	42	28	16	4	850	9000	425
45....	12	48	14	24	24	45	9	48	96	24	21	16–7	36	44	18	24	48	42	28	16	4	1000	11800	500

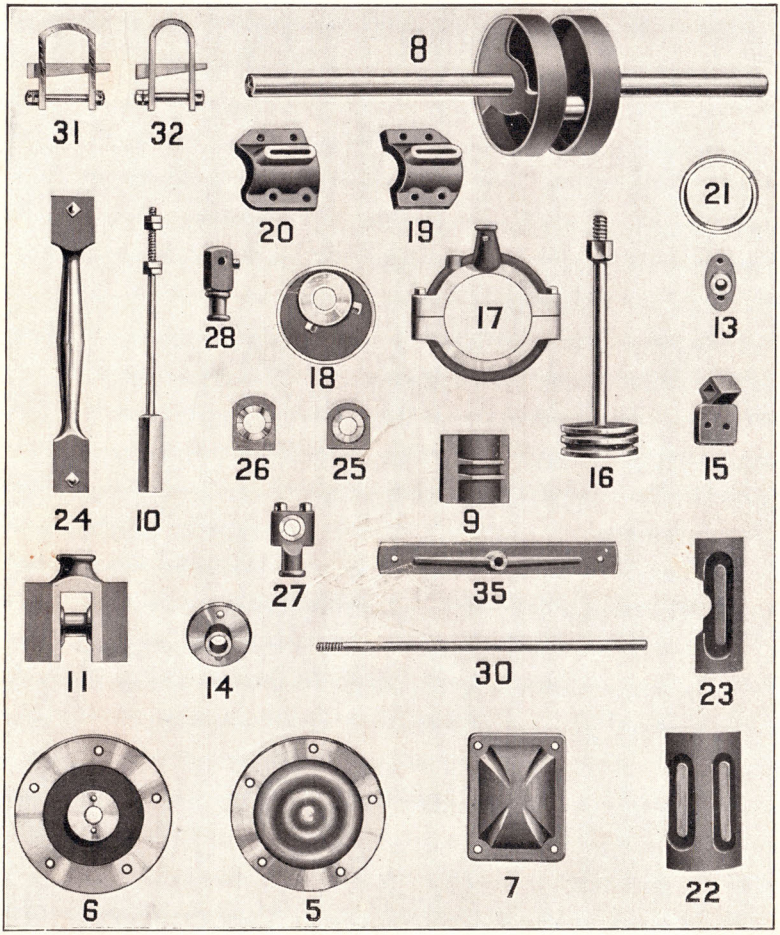


SEPARATE PARTS FOR JEWEL AUTOMATIC ENGINE.

Price List of Separate Parts for Jewel Automatic Engine.

Piece Number and Name of Part.	No. 1	No. 2	No. 3	No. 4	No. 5	No. 6	No. 7	No. 8	No. 9	No. 10
1 Valve gland { on No. 1, 2 and 3 / Jewels are brass	$2.00	$3.00	$3.00	$2.00	$2.50	$3.00	$3.50	$4 00	$4.00	$4.00
3-4 Top cylinder head	5.00	5.00	5.00	5.60	8.60	10.00	11.00	12 00	12.00	12.00
3-5 Bottom Cylinder head	2.80	5.40	5.40	8.80	11.00	14.00	16.00	17.00	17.50	18.00
5 Brass toggle	3.50	4.00	4.00	4.00	7.00	7.00	8.00	9.00	9.50	10.00
8 Crank shaft and pin	19.20	25.80	25.80	34.40	58.00	58.00	60.00	70.00	76.00	80.00
9 Box cap	1.40	1.60	1.60	2 30	3.20	3.20	4.00	5.00	6.00	7.00
10 Box cap	1.50	1.80	1.80	2.60	3.20	3.20	4.50	5.50	6.50	7.50
11 Cross head	4.00	5.20	5.20	10.00	13.00	13.00	14.00	15.00	16.00	18.00
12 Piston head and rod	4.40	4.80	4.80	6.60	9.00	10.00	11.00	12.00	14.00	16.00
14 Steam chest cover	3.00	4.10	4.10	5.20	6.20	6.20	7.00	8.00	9.00	10.00
15 Piston rings ....each	1.00	2.00	2.00	3.00	4.00	4.00	5.00	6.00	7.00	8.00
16 Shaft collar	1.50	1.80	1.80	2.50	3.20	3.20	4.00	5.00	6.00	7.00
17 Eccentric strap	2.00	2.20	2.20	3.60	5.00	5.00	7.00	8.00	9.00	10.00
21 Piston gland	1.90	1.90	1.90	2.50	3.20	3.20	4.00	5.00	5.50	6.00
22-21-23 Center oiler	2.20	2.60	2.60	On larg	er sizes	we use	wipe o	ilers.	See Nos.	60 to 68
22 Valve stem yoke	.80	1.30	1.30	1.80	2.80	2.80	3.50	4.00	5.00	6.00
23 Cylinder jacket	.70	.80	.80	.80	.90	.90	1.50	2.00	2.50	3.00
24 Valve stem	2.80	3.30	3.30	4.20	5.50	5.50	6.00	7.00	8.00	9.00
25 Top way.....each	1.80	2.60	2.60	3.20	5.00	5.00	6.00	6.50	7.00	8.00
34 Toggle pin	1.40	1.40	1.40	2.70	4.00	4.00	5.00	6.00	8.00	9.00
40 Spool	1.00	1.00	1.00	1.40	1.40	1.40	1.60	2.00	2.50	3.00
42 Wrist pin box	4.40	5.40	5.60	9.60	11.00	11.00	20.00	24.00	30 00	36.00
43 Cross head box	4.00	4.40	4.40	7.20	9.00	9.00	16.00	18.00	20.00	24.00
44 Connecting rod	8.00	11.50	11.50	16.00	16.00	16.00	20.00	24.00	30.00	36.00
45 Cyl. jacket, under side	.70	.80	.80	.80	.90	.90	1.50	2.00	2.50	3.00
46 Center oiler standard	1.50	1.50	1.50	On larg	er sizes	we use	wipe o	ilers.		
47 Wrist pin strap	3.60	4.50	4.50	5.60	6.50	6.50	20.00	24.00	28.00	32.00
48 Cross head strap	3.60	4.00	4.00	5 40	5.60	5.60	16.00	18.00	20.00	24.00
49 Eccentric rod	1.50	1.60	1.60	1.60	2.20	2.20	4.00	6.00	8.00	9.00
50 Slot adjusting screw	.50	.50	.50	.60	.70	.80	.90	1.00	1.20	1.50
51 Spring tension screw	.50	.70	.90	1.00	1.20	1.50	1.60	1.70	1.80	2.00
52 Arm spring stud	1.00	1.50	2.00	2.20	2.50	2.70	3.00	3.50	4.00	4.00
53 Governor spring stud	1.50	1.60	1.80	2 00	2.50	3.00	3.50	4.00	4.50	5.00
54 Governor pin	4.00	5.00	5.50	6.00	6.50	7.00	7.50	8.00	8.50	9.00
55 Drag spring	1.50	2.00	2.50	3 00	3.50	4.00	5.00	6.00	7.00	7.50
56 Valve plate	2.50	3.00	3.50	4.00	4.50	5.00	6.00	7.00	8.00	9.00
57 Valve	4.50	5.00	6.00	7.00	8.00	9.00	9.50	10.00	11 00	12.00
58 Governor spring	1.50	2.00	3.00	3.50	4.00	4.50	5.00	6.00	7 00	8.00
59 Governor weight	8.00	9.00	10.00	15.00	18.00	20.00	24.00	36.00	40.00	50.00
60 Crank pin oil cup				1.50	1.50	1.50	2.00	2.50	2.50	2.50
61 Cross head oil cup				1.50	1.50	1.50	2.00	2.50	2.50	2.50
62 Way yoke .....each				1.00	1.00	1.00	1.50	2.00	2.00	2.00
63 Wipe oiler standard .....each				1.50	1.50	1.50	2.00	2.50	2.50	2.50
64 Arm coupling .....each				2.50	2.50	2.50	3.00	3.50	3.50	3.50
65 Eccentric arm dropper				2.00	2.00	2.00	3.00	3.50	3.50	3.50
66 Cross head arm dropper				1.50	1.50	1 50	2.50	3.00	3.00	3.00
67 Wrist pin arm dropper				1.50	1.50	1.50	2.50	3.00	3.00	3.00
68 Oil scoop				1.50	1.50	1.50	2.00	2.50	2.50	2.50

In ordering separate parts, please give name of part as well as piece number.

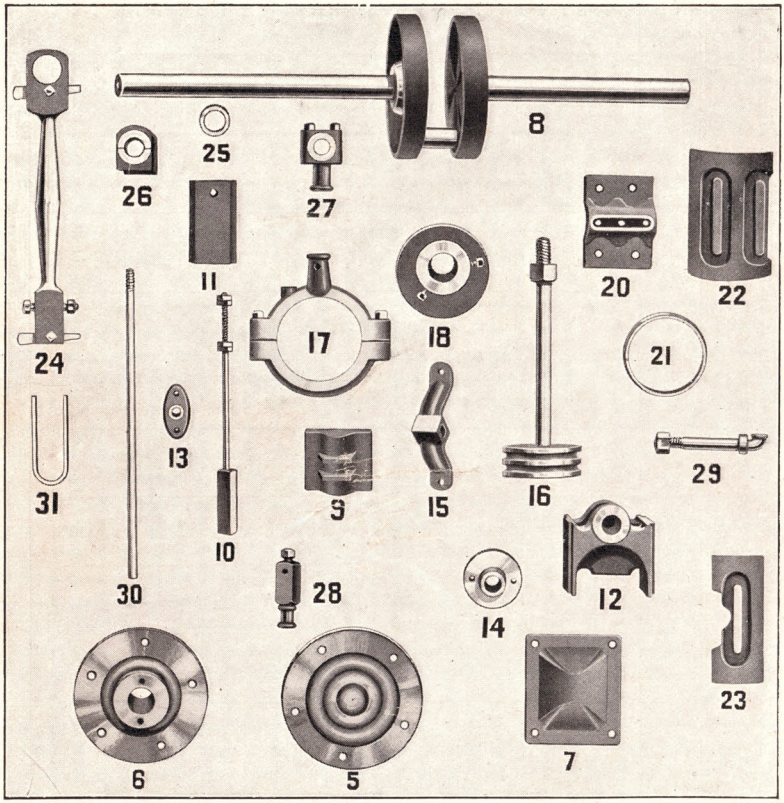


SEPARATE PARTS FOR CENTER-CRANK HORIZONTAL ENGINE.

PRICE LIST OF SEPARATE PARTS FOR THE HORIZONTAL CENTER-CRANK ENGINE.

Piece Number and Name of Part.	4 H. P.	6 H. P.	8 H. P.	10 H. P.	12 H. P.	15 H. P.	20 H. P.	25 H. P.	35 H. P.	40 H. P.	50 H. P.
5 Top cylinder head	$3.20	$3.20	$3.20	$5.20	$5.20	$5.20	$10.00	$10.00	$11.00	$11.50	$12.00
6 Bottom cyl. head..	4.00	4.60	4.60	7.50	7.50	7.50	14.00	14.00	15.00	15.50	16.00
7 Steam chest cover.	2.40	4.00	4.00	4.00	4.00	4.00	6.20	6.20	7.00	7.50	8.00
8 Crank shaft.....	11.00	17.50	17.50	21.20	21.20	21.20	40.00	40.00	50.00	60.00	70.00
9 Valve	1.50	2.00	2.00	3.20	3.20	3.20	5.00	6.50	7.50	8.00	9.00
10 Valve stem.....	2.40	2.80	2.80	4.00	4.00	4.00	4.30	4.30	6.00	7.00	7.50
11 Cross head	5.00	5.20	5.20	10.00	10.00	10.00	13.00	13.00	14.00	15.00	15.50
13 Valve gland	1.40	1.80	1.80	2.30	2.30	2.30	4.00	4.00	5.00	6.00	7.00
14 Piston gland.....	2.00	2.40	2.40	3.00	3.00	3.00	3.50	3.50	4.50	5.00	5.50
15 Valve stem yoke..	.80	1.30	1.30	2.20	2.20	2.20	2.60	2.60	4.00	4.50	5.50
16 Piston head	4.60	4.80	4.80	7.50	7.50	7.50	9.00	9.00	10.00	11.00	12.00
17 Eccentric strap...	2.60	4.00	4.00	4.00	4.00	4.00	8.00	8.00	8.50	9.00	9.50
18 Eccentric block ..	3.00	3.60	3.60	4.80	4.80	4.80	7.50	7.50	8.00	9.00	10.00
19 Box cap.....	1.40	1.80	1.80	3.20	3.20	3.20	3.20	3.20	3.50	4.00	5.00
20 Box cap.....	1.40	1.80	1.80	3.20	3.20	3.20	3.20	3.20	4.00	4.50	5.50
21 Piston rings, each	2.00	3.00	3.00	4.00	4.00	4.00	4.00	4.00	4.50	5.00	5.50
22 Cylinder jacket...	.80	.80	.80	1.00	1.00	1.00	1.00	1.00	2.00	2.50	3.00
23 Cylinder jacket...	.60	.80	.80	.80	.80	.80	1.00	1.00	1.50	2.00	2.50
24 Connecting rod ...	5.20	6.00	6.00	14.50	14.50	14.50	14.50	14.50	20.00	24.00	30.00
25 Cross-head box ...	3.60	6.00	6.00	7.50	7.50	7.50	10.00	10.00	16.00	18.00	20.00
26 Wrist pin box....	3.60	6.00	6.00	10.00	10.00	10.00	12.00	12.00	20.00	24.00	30.00
27 Brass toggle.....	2.60	3.60	3.60	4.00	4.00	4.00	7.00	7.00	9.00	9.50	10.00
28 Toggle pin	1.80	2.20	2.20	2.40	2.40	2.40	4.00	4.00	7.00	7.50	8.00
30 Eccentric rod	1 40	2.00	2.00	2.60	2.60	2.60	3.00	3.00	5.00	6.00	7.00
31 Wrist pin strap...	3.60	3.90	3.90	5.90	5.90	5.90	6.50	6.50	18.00	20.00	22.00
32 Cross-head strap..	3.60	3.90	3.90	5.50	5.50	5.50	5.50	5.50	12.00	14.00	16.00
35 Top way....each	1.80	2.60	2.60	3.50	3.50	3.50	5.00	5.00	6.00	7.00	8.00

In ordering separate parts, please give name of part as well as piece number.



SEPARATE PARTS FOR VERTICAL ENGINE.

PRICE LIST OF SEPARATE PARTS FOR THE VERTICAL ENGINE.

Piece Number and Name of Part.	1 H. P.	2 H. P.	3 H. P.	4 H. P.	5 H. P.	6 H. P.	8 H. P.	10 H. P.	12 H. P.	15 H. P.
5 Top cylinder head	$1.60	$1.80	$1.80	$3.20	$3.20	$3.20	$3.20	$5.20	$5.20	$5.20
6 Bottom cylinder head	2.30	2.40	2.40	4.00	4.00	4.60	4.60	7.40	7.40	7.40
7 Steam chest cover	1.60	1.80	1.80	2.40	2.40	4.00	4.00	4.40	4.40	4.40
8 Crank shaft	10.80	11.00	11.00	11.00	11.00	17.50	17.50	21.00	21.00	21.00
9 Valve	.80	1.00	1.00	1.50	1.50	2.00	2.00	3.20	3.20	3.20
10 Valve stem	1.80	2.00	2.00	2.40	2.40	3.00	3.00	4.00	4.00	4.00
11 Cross-head shoe ..... each	.80	1.00	1.00	1.50	1.50	2.20	2.20	3.00	3.00	3.00
12 Cross head	2.80	3.00	3.00	5.20	5.20	5.20	5.20	8.00	8.00	8.00
13 Valve gland	1.30	1.50	1.50	1.50	1.50	1.80	1.80	2.40	2.40	2.40
14 Piston gland	1.80	2.00	2.00	2.00	2.00	2.40	2 40	3.00	3.00	3.00
15 Valve yoke	.50	.60	.60	.80	.80	1.30	1.30	2.20	2.20	2.20
16 Piston	2.60	2.80	2.80	4 60	4.60	4.80	4.80	7.50	7.50	7.50
17 Eccentric strap	2.50	2.60	2.60	2.60	2 60	4.00	4.00	4.00	4.00	4.00
18 Eccentric block	2.40	2.50	2.50	3.00	3.00	3.60	3.60	4.80	4.80	4.80
20 Box cap ..... each	1.00	1 20	1.20	1.30	1.30	1.80	1.80	3.20	3.20	3.20
21 Piston ring ..... each	1.80	2.00	2.00	2.00	2.00	3.00	3.00	4.00	4.00	4.00
22 Cylinder jacket	.80	1.00	1.00	.70	.70	.80	.80	1.00	1.00	1.00
23 Cylinder jacket	.80	1.00	1.00	.60	.60	.80	.80	.80	.80	.80
24 Connecting rod	4.80	5.00	5.00	5.20	5.20	6.00	6.00	....	....	....
25 Cross-head box	2.00	2.20	2.20	2 20	2.20	3.60	3.60	....	....	....
26 Wrist pin box	3.00	3.20	3.20	3.60	3.60	6.00	6.00	....	....	....
27 Brass toggle	3.80	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00	4.00
28 Toggle pin	1.60	1.80	1.80	1.80	1.80	2.20	2.20	2.50	2.50	2.50
29 Cross-head pin	2.00	2 20	2.20	2.20	2.20	2.70	2.70	3.60	3.60	3.60
30 Eccentric rod	1.20	1.40	1.40	1.40	1.40	2.00	2.00	2 60	2.60	2.60
31 Rod strap	1.60	1.80	1.80	1.80	1.80	2.40	2.40	....	....	....
42 Large bronze boxes from Jewel cut								9.60	9.60	9.60
43 Small bronze boxes from Jewel cut								7.20	7.20	7.20
44 Connecting rod from Jewel cut								16.00	16.00	16.00
47 Strap, bolt, key large end rod, Jewel cut								5.60	5.60	5.60
48 Strap, bolt, key small end rod, Jewel cut								5.40	5.40	5.40

Please notice that the three larger sizes for Numbers 24, 25, 26 and 31 are blank. We use Numbers 42, 43, 44, 47 and 48 instead. Same as Jewel cut for No. 4 Engine. That is to say Numbers 42, 43, 44, 47 and 48 of the No. 4 Jewel we use in the 10-, 12- and 15-horse Vertical Engine

In ordering separate parts, please give name of part as well as piece number.

TELEGRAPHIC CIPHER CODE.

CUSTOMERS' INQUIRIES.

	CODE WORD.
Shipping.	
How soon can you ship ?	Biscuit
Have you shipped——— ?	Bishop
When will you ship ?	Bismuth
Get ready for quick shipment	Bison
Ship by mail	Bitter
Ship by express	Bitumen
Ship by express C. O. D.	Bivalve
Ship by rail (freight)	Blab
Ship by steamer	Blacken
Ship and draw with bill of lading	Blackfish
Shipment not arrived. Send hot wire tracer immediately	Blackleg
By what route did you ship ?	Blade
Ship at carload rates	Bland
Ship at less carload rates	Blonde
Include in car if possible	Blarney
What is carload rate from your place to———?	Blast
What is less than carload rate from your place to———?	Blazing
Prices, Quotations, etc.	
Wire immediately best price for———	Bless
At what price and how soon can you ship———?	Blink
Have made quotations to———. Protect us	Blister
Miscellaneous.	
Call us on long distance telephone	Blood
Do not understand your telegram. Have it repeated	Bloomer
Hold our order until arrival of outside goods	Blossom
Have outside goods all arrived ?	Blotter
Don't fail to include all outside goods	Blubber
There is a mistake in our order. It should read———	Blotch
Furnish boiler and engine on separate bases	Blouse
Furnish boiler and engine on combined base	Bluebird
Orders.	
Wire when you will complete shipment of———	Bluster
Order urgent. Rush shipment every way possible	Bobolink
Hold order and do nothing until further advised	Bobtail
You may enter our order if you can ship in———days	Bodice
Enter order and ship as soon as possible	Bolster
Get ready and hold subject to our orders———	Bomb
Cancel order	Bonfire
Have you in stock———?	Bopeep

REPLIES TO CUSTOMERS.

Shipping.

	CODE WORD.
Can ship today	Album
Can ship tomorrow	Alcohol
Can ship in three days	Alcove
Can ship in four days	Alder
Can ship in five days	Alert
Can ship in six days	Alfalfa
Can ship in one week	Algebra
Can ship in ten days	Alimony
Can ship in two weeks	Alkaline
Can ship in three weeks	Alley
Can ship in one month	Alligator
Can ship in six weeks	Allopath
Can ship in two months	Allspice
Can ship immediately on receipt of order	Allure
We expect to ship———	Alluvial
Shipment unavoidably delayed	Almanac
Will ship on the———	Almond
Shall we ship———?	Alms
Entering your order, but conditions make it impossible to promise shipment before———	Alphabet
We cannot promise to ship before———	Altar
We may be able to ship———	Alpine
Carload rate per 100 pounds is———	Alto
Less carload rate per 100 pounds is———	Altitude

Prices, Quotations, etc.

Spot cash price for——— is——— F. O. B. cars factory	Anatomy
Cannot change our quotations. Best can do	Anarchy
All former quotations are hereby withdrawn	Ancestor
Price given is for immediate acceptance only	Anchor
Information given is not definite enough to enable us to quote. Advise us more fully	Ancient

Miscellaneous.

Can't explain by telegram. Have written fully by this mail	Andiron
Information given is not explicit. Can't furnish unless we are more fully and definitely advised	Angry
No material in stock for———	Anguish
We are shut down	Anthem
Will let you know by letter, in reference to———	Antidote

TELEGRAPHIC CIPHER CODE.—*Concluded.*

REPLIES TO CUSTOMERS.—*Concluded.*

Miscellaneous.—*Concluded.*

	CODE WORD.
Best we can do	Antelope
Outside goods not arrived	Ankle
We cannot sell at the price you offer	Antic
With bill of lading attached	Anvil
We have drawn at ——— days' sight	Antique
Shall we draw at sight?	Anthill
How soon and for how much may we draw?	Annals
Have you remitted?	Angular
Our representative will call on you ———	Acrobat

Orders.

We will complete shipment of your order ———	Ashes
Will ship order complete with exception of ———	Asylum
Have entered your order	Asbestos
Too late to change your order	Asunder
Have cancelled your order	Ashby
Your order ——— ready to ship. Wire shipping instructions	Athletic
Shall we furnish engine and boiler on combined bases?	Autumn
Shall we furnish engine and boiler on separate bases?	Avenge
Is your order still in force?	Awning
Shall we enter your order?	Awake
Your order was shipped ———	Avowal
If ordered immediately could ship ———	Aversion
Not in position to furnish ———	Awkward

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